

Currently Pending Claims:

1. (Previously Amended) A biomember comprising a porous body of a calcium phosphates sintered body having a number of substantially globular pores and a skeletal part, wherein the skeletal part is compactly sintered, a porosity of the porous body is not less than 55% and not more than 85% and a mean pore diameter which is not less than 50 μm and not more than 800 μm , wherein the globular pores include a plurality of large pores having a size larger than the mean pore diameter, wherein the large pores have at least three communicating pores having a diameter of not less than 5 μm , on the average, and at least one of the communicating pores has a diameter of not less than 25 μm , on the average, wherein the large pores have open areas communicating to other pores such that a total of the open areas occupies a ratio of not more than 50% of a pore surface area on the average, whereby in a dry state, it is possible to wet the whole of the porous body by dropping water and blood,

wherein the globular pores contain therein an osteogenic cell, automyelocyte, homogeneous myelocyte, fetal myelocyte, undifferentiated stem cell, osteogenic cell to which a gene of an active factor is introduced, automyelocyte to which a gene of an active factor is introduced, homogeneous myelocyte to which a gene of an active factor is introduced, fetal myelocyte to which a gene of an active factor is introduced, or undifferentiated stem cell to which a gene of an active factor is introduced.

2. (Canceled)

3. (Previously Amended) A biomember according to claim 1, wherein the large pores have at least six communicating pores having a diameter of not less than 10 μm , on the average, and at least two pores among the six communicating pores have a diameter of not less than 50 μm , on the average, wherein 50% or more of all pores in the porous body have pore diameters which range within $\pm 30\%$ of the mean pore diameter.

4. (Previously Presented) A biomember according to claim 1, wherein the large pores have a sum of open areas which appear in any cross section of the porous body, when

the porous body is cut, which is not less than 25% and not more than 60% of the whole area of the cross section of the porous body.

5. (Previously Presented) A biomember according to claim 1, wherein the large pores have a sum of open areas which appear in any cross section of the porous body, when the porous body is cut, which is not less than 35% and not more than 55% of the whole area of the cross section of the porous body.

6. (Previously Presented) A biomember according to claim 1, wherein when the sintered porous body is processed, washed and dried and is brought into contact with water or blood without pretreatment, the water or blood can infiltrate into a core part of the porous body by a capillary phenomenon.

7. (Previously Amended) A biomember according to claim 1, wherein micro particles of submicron order are used as raw material, and a skeletal part of a sintered body comprises grains grown to about 5 microns.

8. (Previously Presented) A biomember according to claim 1, wherein the thickness of a circumference part formed between the adjacent large pores which are overlapped is set to be approximately equal to the thickness of a particle of calcium phosphate in the porous body.

9. (Previously Presented) A biomember according to claim 1, wherein a pore is formed from foaming by stirring a slurry.

10. (Previously Presented) A biomember according to claim 1, wherein calcium phosphates sintered body is hydroxyapatite.

11. (Canceled)

12. (Previously Presented) A biomember according to claim 1, wherein an active material is attached on an inner surface of a pore.

13. (Previously Presented) A biomember according to claim 12, wherein an active material is one chosen from a cell adhesion promoting material, cell proliferation promoting material, osteogenesis promoting material, bone absorption inhibiting material and vascularization promoting material, or combinations of at least two of cell adhesion promoting material, cell proliferation promoting material, osteogenesis promoting material, bone absorption inhibiting material and vascularization promoting material.

14. (Previously Presented) A biomember according to claim 12, wherein an osteogenic cell, automyelocyte, homogeneous myelocyte, fetal myelocyte, undifferentiated stem cell, osteogenic cell to which a gene of an active factor is introduced, automyelocyte to which a gene of an active factor is introduced, homogeneous myelocyte to which a gene of an active factor is introduced, fetal myelocyte to which a gene of an active factor is introduced, or undifferentiated stem cell to which a gene of an active factor is introduced is introduced into a pore.

15. (Canceled)

16. (Previously Amended) A biomember of which a part or the whole of an outer surface of a compact member is made of a porous member comprising a calcium phosphates sintered body, wherein the compact member has a porosity of not less than 0% and not more than 15%, the porous member has a porosity of not less than 55% and not more than 85%, and the porous member is comprised of assembling substantially globular pores, a mean pore diameter which is not less than 50 μm and not more than 400 μm , wherein the globular pores include a plurality of large pores having a size larger than the mean pore diameter, wherein the large pores have at least three communicating pores having a diameter of not less than 5 μm , on the average, and at least one of the communicating pores has a diameter of not less than 25 μm , on the average, wherein the large pores have open areas communicating to other pores such that a total of the open areas has a ratio of not more than 50% of the pore surface

area on the average, and the porous member can wet the whole of the biomember by dropping water and blood in a dry state,

wherein an osteogenic cell, automyelocyte, homogeneous myelocyte, fetal myelocyte, undifferentiated stem cell, an osteogenic cell to which a gene of an active factor is introduced, automyelocyte to which a gene of an active factor is introduced, homogeneous myelocyte to which a gene of an active factor is introduced, fetal myelocyte to which a gene of an active factor is introduced, or undifferentiated stem cell to which a gene of an active factor is introduced, is introduced into a pore of a porous member.

17. (Previously Presented) A biomember according to claim 16, wherein a compact member is metal or ceramics.

18. (Previously Presented) A biomember according to claim 16, wherein an intermediate layer is formed between s compact member and a porous member.

19. (Previously Presented) A biomember according to claim 18, wherein the intermediate layer comprises at least one of glass for a living body, calcium phosphate, or calcium titanate.

20. (Previously Presented) A biomember according to claim 19, wherein a porous member comprises hydroxyapatite, and an intermediate layer is hydroxyapatite formed by spray coating.

21. (Previously Presented) A biomember according to claim 16, wherein a biomember is an artificial joint, and a porous member is a stem part thereof.

22. (Previously Presented) A biomember according to claim 16, wherein an active material is attached to a pore inner surface of a porous member.

23-24. (Canceled)

25. (Previously Amended) A biomember which has a porous sintered body comprising a dense part and a porous part made of a calcium phosphates sintered body, wherein the dense part has a porosity of not less than 0% and not more than 20%, and the porous part has a porosity of not less than 55% and not more than 85%, wherein the porous part has substantially globular pores, wherein a mean pore diameter of the globular pores is not less than 50 μ m and not more than 800 μ m, wherein large pores having a size larger than the mean pore diameter have at least three communicating pores having a diameter of not less than 5 μ m, on the average, wherein a pore among the three communicating pores has at least one communicating pore having a diameter of not less than 25 μ m, on the average, wherein the large pores are opened as a communicating pore in the ratio of not more than 50% of a pore wall surface area on the average, so that at least the porous part can wet the whole of the sintered body by dropping water and blood in a dry state,

wherein at least one of an osteogenic cell, automyelocyte, homogeneous myelocyte, fetal myelocyte, undifferentiated stem cell, osteogenic cell to which a gene of an active factor is introduced, automyelocyte to which a gene of an active factor is introduced, homogeneous myelocyte to which a gene of an active factor is introduced, fetal myelocyte to which a gene of an active factor is introduced and undifferentiated stem cell to which a gene of an active factor is introduced, is introduced into a pore.

26. (Previously Presented) A biomember according to claim 25, wherein a compact part has a porosity of not less than 0% and not more than 20%.

27. (Previously Presented) A biomember according to claim 25, wherein at least a pore of the porous part is formed from foaming by stirring a slurry.

28. (Previously Presented) A biomember according to claim 25, wherein the calcium phosphates sintered body comprises hydroxyapatite.

29. (Previously Presented) A biomember according to claim 25, wherein an active material is attached on the inner surface of a pore.

30-32 (Canceled)

33. (Previously Presented) A biomember according to claim 1, wherein the porous body is a perfectly sintered body wherein adjacent particles are contacted compactly and grain growth is completed.

34. (Previously Presented) A biomember according to claims 1 or 25, wherein the porous body has unevenness as a surface characteristic which is substantially less between particles after sintering.

35. (Previously Presented) A biomember according to claims 1 or 25, wherein a pore wall has a dense microstructure.

36. (Previously Amended) A method of fabricating a biomember comprising:
preparing a slurry including a cross-polymerizable resin polymer and hydroxyapatite particles having a particle diameter such that a mean particle diameter is not less than 0.1 μ m and not more than 1 μ m;

stirring the slurry to form bubbles or pores;

stabilizing a shape of the bubbles or pores by the cross-polymerizable resin polymer included in the slurry after stirring;

drying the slurry to form a dried body;

sintering the dried body at about 1100°C to make a hydroxyapatite porous body having hydroxyapatite particles, wherein the particles are grown so as to have an average particle diameter of 2-3 μ m and a maximum diameter of 5 μ m or less,

wherein at least one of an osteogenic cell, automyelocyte, homogeneous myelocyte, fetal myelocyte, undifferentiated stem cell, osteogenic cell to which a gene of an active factor is introduced, automyelocyte to which a gene of an active factor is introduced, homogeneous myelocyte to which a gene of an active factor is introduced, fetal myelocyte to which a gene of an active factor is introduced and undifferentiated stem cell to which a gene of an active factor is introduced, is introduced into a pore.

37. (Previously Presented) A method according to claim 36, wherein a calcium phosphate particle of slurry raw material has a particle diameter such that a mean particle diameter is of submicron order.

38. (Original) A method according to claim 37, wherein a maximum particle diameter of a calcium phosphate particle of slurry raw material is of submicron order.

39. (Previously Presented) A method according to claim 36, wherein a porous body has a particle diameter of approximately 0.1 μm in a dry state, and a particle diameter of approximately 2-3 μm by particle diameter growth after sintering.

40. (Previously Presented) A method according to claim 36, wherein a pore shape of a raw material particle is stabilized by a polymer cross-polymerizable resin.

41. (Previously Amended) A method according to claim 36, wherein a submicron particle undergoes grain growth by sintering to become a particle having a diameter not more than 5 microns.

42. (Previously Presented) A method according to claim 36, wherein a porous part comprising a calcium phosphates sintering body is installed on a dense part having a porosity of 20 % or less.